Results for busy saloon

```
//                 ***            for panel control configs ***

        static  final int nClients= 15;        // nr of clients
        static  final int nChairs=4;                    // nr of chairs (barber chair also)
        static  final int minTimeHairCut=2500; // 25 minutes simulation
        static  final int variableTimeCut=150; // 100ms => 1.5 minutes
        static  final int maxTimeBetweenCuts=300;      // coffee pause
     static  final int maxTimeBetweenClients=500;// busy saloon => 5 minutes

        // 1 chair for barber + 3 for clients waiting => 4 chairs permanently available
```

 Client id= 0 arrives. Client id=0 seats. Freechairs = 3. Trials: 1.

  Client id=0 begins hair cut.
  Barber begins hair cut. Freechairs = 3. Client id= 1 arrives. Client id=1 seats.
Freechairs = 2. Trials: 1.
 Client id= 2 arrives. Client id= 3 arrives. Client id= 4 arrives. Client id= 5 arrives.
Client id= 6 arrives. Client id= 7 arrives. Client id= 8 arrives. Client id= 9 arrives.
      Barber ends hair cut.
  Client id=0 ends hair cut.
 Client id= 10 arrives.
  Barber begins hair cut. Freechairs = 2.
  Client id=1 begins hair cut.   Client id=2 seats. Freechairs = 1. Trials: 1.
 Client id= 11 arrives. Client id= 12 arrives. Client id= 13 arrives.
    *** Summary   ***
 Client id= 14 arrives.   Barber ends hair cut.
  Client id=1 ends hair cut.

  Barber begins hair cut. Freechairs = 1.
  Client id=2 begins hair cut.   Client id=3 seats. Freechairs = 0. Trials: 1.
      Barber ends hair cut.
  Client id=2 ends hair cut.

  Barber begins hair cut. Freechairs = 0.
  Client id=3 begins hair cut.
  Saloon full. Client id=4 comes maybe later. Freechairs = 0. Trials: 1.

  Saloon full. Client id=6 comes maybe later. Freechairs = 0. Trials: 1.

  Saloon full. Client id=5 comes maybe later. Freechairs = 0. Trials: 1.

  Client id=0 says Bye. Freechairs = 1. Client id=10 seats. Freechairs = 0. Trials: 1.

  Saloon full. Client id=9 comes maybe later. Freechairs = 0. Trials: 1.

  Saloon full. Client id=8 comes maybe later. Freechairs = 0. Trials: 1.

  Saloon full. Client id=7 comes maybe later. Freechairs = 0. Trials: 1.

      *** Client id=0 departs. Freechairs = 0. Hair cut? 1. Trials? 1. ***
Client id: 0 finished => thread join.
 Client id= 7 arrives again. Client id= 8 arrives again. Client id= 4 arrives again.
Client id=3 ends hair cut.
      Barber ends hair cut.

  Barber begins hair cut. Freechairs = 0.
  Client id=10 begins hair cut.
  Saloon full. Client id=11 comes maybe later. Freechairs = 0. Trials: 1.

  Saloon full. Client id=12 comes maybe later. Freechairs = 0. Trials: 1.

  Saloon full. Client id=13 comes maybe later. Freechairs = 0. Trials: 1.

  Saloon full. Client id=14 comes maybe later. Freechairs = 0. Trials: 1.

  Client id=2 says Bye. Freechairs = 2.
```

```
       *** Client id=2 departs. Freechairs = 1. Hair cut? 1. Trials? 1. ***

   Client id=1 says Bye. Freechairs = 1.
       *** Client id=1 departs. Freechairs = 1. Hair cut? 1. Trials? 1. ***
   Client id=7 seats. Freechairs = 1. Trials: 2.
Client id: 1 finished => thread join.
Client id: 2 finished => thread join.
 Client id= 14 arrives again. Client id= 9 arrives again. Client id= 6 arrives again.
Client id= 12 arrives again. Client id= 5 arrives again. Client id= 13 arrives again.
       Barber ends hair cut.
   Client id=10 ends hair cut.

   Barber  begins hair cut. Freechairs = 1.
   Client id=7 begins hair cut.     Client id=8 seats. Freechairs = 0. Trials: 2.
 Client id= 11 arrives again.  Client id=7 ends hair cut.
       Barber ends hair cut.

   Barber  begins hair cut. Freechairs = 0.
   Client id=8 begins hair cut.
   Saloon full. Client id=4 comes maybe later. Freechairs = 0. Trials: 2.
   Client id=14 seats. Freechairs = 0. Trials: 2.

   Client id=3 says Bye. Freechairs = 1.
       *** Client id=3 departs. Freechairs = 0. Hair cut? 1. Trials? 1. ***
Client id: 3 finished => thread join.
   Client id=8 ends hair cut.
       Barber ends hair cut.

   Barber  begins hair cut. Freechairs = 0.
   Client id=14 begins hair cut.
   Saloon full. Client id=9 comes maybe later. Freechairs = 0. Trials: 2.

   Saloon full. Client id=12 comes maybe later. Freechairs = 0. Trials: 2.

   Saloon full. Client id=6 comes maybe later. Freechairs = 0. Trials: 2.
   Client id=11 seats. Freechairs = 0. Trials: 2.

   Client id=10 says Bye. Freechairs = 1.
   Saloon full. Client id=13 comes maybe later. Freechairs = 0. Trials: 2.

   Saloon full. Client id=5 comes maybe later. Freechairs = 0. Trials: 2.

       *** Client id=10 departs. Freechairs = 0. Hair cut? 1. Trials? 1. ***
 Client id= 4 arrives again. Client id= 5 arrives again. Client id= 9 arrives again.
Client id= 13 arrives again.     Barber ends hair cut.
   Client id=14 ends hair cut.

   Barber  begins hair cut. Freechairs = 0.
   Client id=11 begins hair cut.
   Client id=7 says Bye. Freechairs = 1.
       *** Client id=7 departs. Freechairs = 1. Hair cut? 1. Trials? 2. ***

   Client id=8 says Bye. Freechairs = 2.  Client id=4 seats. Freechairs = 1. Trials: 3.

       *** Client id=8 departs. Freechairs = 1. Hair cut? 1. Trials? 2. ***
 Client id= 12 arrives again. Client id= 6 arrives again.  Barber ends hair cut.
   Client id=11 ends hair cut.

   Barber  begins hair cut. Freechairs = 1.
   Client id=4 begins hair cut.     Client id=5 seats. Freechairs = 0. Trials: 3.
       Barber ends hair cut.
   Client id=4 ends hair cut.

   Barber  begins hair cut. Freechairs = 0.
   Client id=5 begins hair cut.
   Saloon full. Client id=9 comes maybe later. Freechairs = 0. Trials: 3.

   Saloon full. Client id=13 comes maybe later. Freechairs = 0. Trials: 3.
   Client id=12 seats. Freechairs = 0. Trials: 3.

   Client id=14 says Bye. Freechairs = 1.
```

```
        *** Client id=14 departs. Freechairs = 0. Hair cut? 1. Trials? 2. ***

        *** Client id=9 departs. Freechairs = 0. Hair cut? 0. Trials? 3. ***
        Barber ends hair cut.
   Client id=5 ends hair cut.

   Barber  begins hair cut. Freechairs = 0.
   Client id=12 begins hair cut.
   Saloon full. Client id=6 comes maybe later. Freechairs = 0. Trials: 3.

   Client id=11 says Bye. Freechairs = 1.
        *** Client id=11 departs. Freechairs = 1. Hair cut? 1. Trials? 2. ***

   Client id=4 says Bye. Freechairs = 2.
        *** Client id=4 departs. Freechairs = 2. Hair cut? 1. Trials? 3. ***

   Client id=5 says Bye. Freechairs = 3.
        *** Client id=5 departs. Freechairs = 3. Hair cut? 1. Trials? 3. ***
Client id: 4 finished => thread join.
Client id: 5 finished => thread join.

        *** Client id=6 departs. Freechairs = 3. Hair cut? 0. Trials? 3. ***
Client id: 6 finished => thread join.
Client id: 7 finished => thread join.
Client id: 8 finished => thread join.
Client id: 9 finished => thread join.
Client id: 10 finished => thread join.
Client id: 11 finished => thread join.

        *** Client id=13 departs. Freechairs = 3. Hair cut? 0. Trials? 3. ***
   Client id=12 ends hair cut.

   Client id=12 says Bye. Freechairs = 4.
        *** Client id=12 departs. Freechairs = 4. Hair cut? 1. Trials? 3. ***
Client id: 12 finished => thread join.
Client id: 13 finished => thread join.
Client id: 14 finished => thread join.
        Barber ends hair cut.


-------------------------------------------------------------------------

**** Results2 for 'normal' Barber Saloon ****

params as before with difference

static  final int maxTimeBetweenClients=4000; // calmer saloon => simul 40 minutes
(pause until 40 minutes between 2 clients)


-----------------------

 Client id= 0 arrives.  Client id=0 seats. Freechairs = 3. Trials: 1.

   Client id=0 begins hair cut.
   Barber  begins hair cut. Freechairs = 3. Client id= 1 arrives.  Client id=1 seats.
Freechairs = 2. Trials: 1.
        Barber ends hair cut.
   Client id=0 ends hair cut.

   Barber  begins hair cut. Freechairs = 2.
   Client id=1 begins hair cut.
   Client id=0 says Bye. Freechairs = 3.
        *** Client id=0 departs. Freechairs = 3. Hair cut? 1. Trials? 1. ***
 Client id= 2 arrives.  Client id=2 seats. Freechairs = 2. Trials: 1.
 Client id= 3 arrives.  Client id=1 ends hair cut.
        Barber ends hair cut.

   Barber  begins hair cut. Freechairs = 2.
   Client id=2 begins hair cut.     Client id=3 seats. Freechairs = 1. Trials: 1.
 Client id= 4 arrives.  Client id=2 ends hair cut.
```

Barber ends hair cut.

  Barber begins hair cut. Freechairs = 1.
  Client id=3 begins hair cut.
  Client id=1 says Bye. Freechairs = 2.
      *** Client id=1 departs. Freechairs = 2. Hair cut? 1. Trials? 1. ***
  Client id=4 seats. Freechairs = 1. Trials: 1.
 Client id= 5 arrives. Client id= 6 arrives. Barber ends hair cut.
  Client id=3 ends hair cut.

  Barber begins hair cut. Freechairs = 1.
  Client id=4 begins hair cut.
  Client id=2 says Bye. Freechairs = 2. Client id=5 seats. Freechairs = 1. Trials: 1.

      *** Client id=2 departs. Freechairs = 1. Hair cut? 1. Trials? 1. ***
      Barber ends hair cut.
  Client id=4 ends hair cut.

  Barber begins hair cut. Freechairs = 1.
  Client id=5 begins hair cut.   Client id=6 seats. Freechairs = 0. Trials: 1.
 Client id= 7 arrives. Client id=5 ends hair cut.
      Barber ends hair cut.

  Barber begins hair cut. Freechairs = 0.
  Client id=6 begins hair cut.
  Client id=3 says Bye. Freechairs = 1.
      *** Client id=3 departs. Freechairs = 1. Hair cut? 1. Trials? 1. ***

  Client id=4 says Bye. Freechairs = 2.
      *** Client id=4 departs. Freechairs = 2. Hair cut? 1. Trials? 1. ***
  Client id=7 seats. Freechairs = 1. Trials: 1.
 Client id= 8 arrives. Client id= 9 arrives. Barber ends hair cut.
  Client id=6 ends hair cut.

  Barber begins hair cut. Freechairs = 1.
  Client id=7 begins hair cut.
  Client id=5 says Bye. Freechairs = 2.
      *** Client id=5 departs. Freechairs = 2. Hair cut? 1. Trials? 1. ***
  Client id=8 seats. Freechairs = 1. Trials: 1.
 Client id= 10 arrives.   Barber ends hair cut.
  Client id=7 ends hair cut.

  Barber begins hair cut. Freechairs = 1.
  Client id=8 begins hair cut.   Client id=9 seats. Freechairs = 0. Trials: 1.
 Client id= 11 arrives. Client id=8 ends hair cut.
 Client id= 12 arrives.   Barber ends hair cut.
 Client id= 13 arrives.
  Barber begins hair cut. Freechairs = 0.
  Client id=9 begins hair cut.
  Client id=6 says Bye. Freechairs = 1.
      *** Client id=6 departs. Freechairs = 1. Hair cut? 1. Trials? 1. ***
  Client id=10 seats. Freechairs = 0. Trials: 1.
  Client id=9 ends hair cut.
      Barber ends hair cut.

  Barber begins hair cut. Freechairs = 0.
  Client id=10 begins hair cut.
  Client id=7 says Bye. Freechairs = 1.
      *** Client id=7 departs. Freechairs = 1. Hair cut? 1. Trials? 1. ***
  Client id=11 seats. Freechairs = 0. Trials: 1.

    *** Summary   ***
Client id: 0 finished => thread join.
 Client id= 14 arrives.Client id: 1 finished => thread join.
Client id: 2 finished => thread join.
Client id: 3 finished => thread join.
Client id: 4 finished => thread join.
Client id: 5 finished => thread join.
Client id: 6 finished => thread join.
Client id: 7 finished => thread join.
  Client id=10 ends hair cut.

```
        Barber ends hair cut.

    Barber  begins hair cut. Freechairs = 0.
    Client id=11 begins hair cut.    Client id=12 seats. Freechairs = 0. Trials: 1.

    Client id=8 says Bye. Freechairs = 1.
        *** Client id=8 departs. Freechairs = 0. Hair cut? 1. Trials? 1. ***
Client id: 8 finished => thread join.
        Barber ends hair cut.
    Client id=11 ends hair cut.

    Barber  begins hair cut. Freechairs = 0.
    Client id=12 begins hair cut.
    Saloon full. Client id=13 comes maybe later. Freechairs = 0. Trials: 1.

    Client id=9 says Bye. Freechairs = 1.
        *** Client id=9 departs. Freechairs = 1. Hair cut? 1. Trials? 1. ***
Client id: 9 finished => thread join.
    Client id=14 seats. Freechairs = 0. Trials: 1.
 Client id= 13 arrives again.  Client id=12 ends hair cut.
        Barber ends hair cut.

    Barber  begins hair cut. Freechairs = 0.
    Client id=14 begins hair cut.
    Client id=10 says Bye. Freechairs = 1.
        *** Client id=10 departs. Freechairs = 1. Hair cut? 1. Trials? 1. ***

    Client id=11 says Bye. Freechairs = 2.
        *** Client id=11 departs. Freechairs = 2. Hair cut? 1. Trials? 1. ***
Client id: 10 finished => thread join.
    Client id=13 seats. Freechairs = 1. Trials: 2.
Client id: 11 finished => thread join.
        Barber ends hair cut.

    Barber  begins hair cut. Freechairs = 1.
    Client id=13 begins hair cut.
    Client id=12 says Bye. Freechairs = 2.
        *** Client id=12 departs. Freechairs = 2. Hair cut? 1. Trials? 1. ***
Client id: 12 finished => thread join.
    Client id=14 ends hair cut.

    Client id=14 says Bye. Freechairs = 3.
        *** Client id=14 departs. Freechairs = 3. Hair cut? 1. Trials? 1. ***
        Barber ends hair cut.
    Client id=13 ends hair cut.

    Client id=13 says Bye. Freechairs = 4.
        *** Client id=13 departs. Freechairs = 4. Hair cut? 1. Trials? 2. ***
Client id: 13 finished => thread join.
Client id: 14 finished => thread join.




-------------------------------------------------------------------------

**** Results3: for 'calm' Barber Saloon ****

params as before with difference

static  final int maxTimeBetweenClients=6000; // calmer saloon => simul 60 minutes
(pause until 60 minutes between 2 clients)

-----------------------

 Client id= 0 arrives.  Client id=0 seats. Freechairs = 3. Trials: 1.

    Client id=0 begins hair cut.
    Barber  begins hair cut. Freechairs = 3.    Barber ends hair cut.
    Client id=0 ends hair cut.
```

```
   Client id=0 says Bye. Freechairs = 4.
       *** Client id=0 departs. Freechairs = 4. Hair cut? true. Trials? 1. ***
 Client id= 1 arrives.  Client id=1 seats. Freechairs = 3. Trials: 1.

   Client id=1 begins hair cut.
   Barber  begins hair cut. Freechairs = 3. Client id= 2 arrives.  Client id=2 seats.
Freechairs = 2. Trials: 1.
   Client id=1 ends hair cut.
       Barber ends hair cut.

   Barber  begins hair cut. Freechairs = 2.
   Client id=2 begins hair cut.
   Client id=1 says Bye. Freechairs = 3.
       *** Client id=1 departs. Freechairs = 3. Hair cut? true. Trials? 1. ***
   Client id=2 ends hair cut.

   Client id=2 says Bye. Freechairs = 4.
       *** Client id=2 departs. Freechairs = 4. Hair cut? true. Trials? 1. ***
       Barber ends hair cut.
 Client id= 3 arrives.  Client id=3 seats. Freechairs = 3. Trials: 1.

   Client id=3 begins hair cut.
   Barber  begins hair cut. Freechairs = 3. Client id= 4 arrives.  Client id=4 seats.
Freechairs = 2. Trials: 1.
   Client id=3 ends hair cut.
       Barber ends hair cut.

   Barber  begins hair cut. Freechairs = 2.
   Client id=4 begins hair cut.
   Client id=3 says Bye. Freechairs = 3.
       *** Client id=3 departs. Freechairs = 3. Hair cut? true. Trials? 1. ***
 Client id= 5 arrives.  Client id=5 seats. Freechairs = 2. Trials: 1.
 Client id= 6 arrives.  Client id=4 ends hair cut.
       Barber ends hair cut.

   Barber  begins hair cut. Freechairs = 2.
   Client id=5 begins hair cut.     Client id=6 seats. Freechairs = 1. Trials: 1.
       Barber ends hair cut.
   Client id=5 ends hair cut.

   Barber  begins hair cut. Freechairs = 1.
   Client id=6 begins hair cut.
   Client id=4 says Bye. Freechairs = 2.
       *** Client id=4 departs. Freechairs = 3. Hair cut? true. Trials? 1. ***

   Client id=5 says Bye. Freechairs = 3.
       *** Client id=5 departs. Freechairs = 3. Hair cut? true. Trials? 1. ***
 Client id= 7 arrives.  Client id=7 seats. Freechairs = 2. Trials: 1.
 Client id= 8 arrives.  Client id=6 ends hair cut.
       Barber ends hair cut.

   Barber  begins hair cut. Freechairs = 2.
   Client id=7 begins hair cut.     Client id=8 seats. Freechairs = 1. Trials: 1.
       Barber ends hair cut.
   Client id=7 ends hair cut.

   Barber  begins hair cut. Freechairs = 1.
   Client id=8 begins hair cut.
   Client id=6 says Bye. Freechairs = 2.
       *** Client id=6 departs. Freechairs = 2. Hair cut? true. Trials? 1. ***

   Client id=7 says Bye. Freechairs = 3.
       *** Client id=7 departs. Freechairs = 3. Hair cut? true. Trials? 1. ***
 Client id= 9 arrives.  Client id=9 seats. Freechairs = 2. Trials: 1.
   Client id=8 ends hair cut.
       Barber ends hair cut.

   Barber  begins hair cut. Freechairs = 2.
   Client id=9 begins hair cut.
   Client id=8 says Bye. Freechairs = 3.
       *** Client id=8 departs. Freechairs = 3. Hair cut? true. Trials? 1. ***
```

```
        Barber ends hair cut.
    Client id=9 ends hair cut.

    Client id=9 says Bye. Freechairs = 4.
        *** Client id=9 departs. Freechairs = 4. Hair cut? true. Trials? 1. ***
  Client id= 10 arrives.  Client id=10 seats. Freechairs = 3. Trials: 1.

    Client id=10 begins hair cut.
    Barber  begins hair cut. Freechairs = 3.  Client id=10 ends hair cut.

    Client id=10 says Bye. Freechairs = 4.
        *** Client id=10 departs. Freechairs = 4. Hair cut? true. Trials? 1. ***
        Barber ends hair cut.
  Client id= 11 arrives.  Client id=11 seats. Freechairs = 3. Trials: 1.

    Client id=11 begins hair cut.
    Barber  begins hair cut. Freechairs = 3.    Barber ends hair cut.
    Client id=11 ends hair cut.

    Client id=11 says Bye. Freechairs = 4.
        *** Client id=11 departs. Freechairs = 4. Hair cut? true. Trials? 1. ***
  Client id= 12 arrives.  Client id=12 seats. Freechairs = 3. Trials: 1.

    Client id=12 begins hair cut.
    Barber  begins hair cut. Freechairs = 3.    Barber ends hair cut.
    Client id=12 ends hair cut.

    Client id=12 says Bye. Freechairs = 4.
        *** Client id=12 departs. Freechairs = 4. Hair cut? true. Trials? 1. ***
  Client id= 13 arrives.  Client id=13 seats. Freechairs = 3. Trials: 1.

    Client id=13 begins hair cut.
    Barber  begins hair cut. Freechairs = 3.  Client id=13 ends hair cut.

    Client id=13 says Bye. Freechairs = 4.
        *** Client id=13 departs. Freechairs = 4. Hair cut? true. Trials? 1. ***
        Barber ends hair cut.

      *** Summary       ***
Client id: 0 finished => thread join.
Client id: 1 finished => thread join.
 Client id= 14 arrives.Client id: 2 finished => thread join.
Client id: 3 finished => thread join.
Client id: 4 finished => thread join.
Client id: 5 finished => thread join.
    Client id=14 seats. Freechairs = 3. Trials: 1.

    Client id=14 begins hair cut.  Client id: 6 finished => thread join.

    Barber  begins hair cut. Freechairs = 3.Client id: 7 finished => thread join.
Client id: 8 finished => thread join.
Client id: 9 finished => thread join.
Client id: 10 finished => thread join.
Client id: 11 finished => thread join.
Client id: 12 finished => thread join.
Client id: 13 finished => thread join.
    Client id=14 ends hair cut.

    Client id=14 says Bye. Freechairs = 4.
        *** Client id=14 departs. Freechairs = 4. Hair cut? true. Trials? 1. ***
Client id: 14 finished => thread join.
        Barber ends hair cut.
```